

What Is Claimed Is:

1. A sensor element for determining the concentration of a gas component in a gas mixture, in particular for determining the concentration of oxygen in the exhaust gas of an internal combustion engine, having a laminated body (10) that is made up of a plurality of solid electrolyte layers and that comprises an upper and lower layer (13, 11), each fashioned as a ceramic film, as well as an intermediate layer (12), wherein the upper and lower layer (13, 11) are fashioned with equal thicknesses, and the intermediate layer (12) is made of at least one film binder layer.
2. The sensor element as recited in Claim 1, wherein the at least one film binder layer is printed on one of the films for the upper and lower layer (13, 11).
3. The sensor element as recited in Claim 1 or 2, wherein the at least one film binder layer is made of a zirconium oxide paste.
4. The sensor element as recited in one of Claims 1 to 3, wherein the thickness of the upper and lower layer (13, 11) is between 0.3 mm and 1.0 mm in each case, and the thickness of the intermediate layer is selected between 25 μm and 100 μm .
5. The sensor element as recited in Claim 4, wherein the thickness of the upper and lower layer (13, 11) is 0.5 mm in each case, and the thickness of the intermediate layer is 50 μm .
6. The sensor element as recited in one of Claims 1 to 5, wherein the upper layer (13) includes a gas entry hole (14) that completely penetrates this layer and that is made before the lamination of the laminated body (10).
7. The sensor element as recited in one of Claims 1 to 6, wherein in the laminated body (10) there are fashioned a pump cell having an outer and inner pump electrode (15, 16) situated on a solid electrolyte, and a Nernst cell having a Nernst electrode (17) and a reference electrode (19) situated on a solid electrolyte, and wherein the upper layer (13) forms the solid electrolyte of the pump cell and the intermediate layer (12) forms the solid electrolyte of the Nernst cell.

8. The sensor element as recited in Claims 6 and 7,
wherein the inner pump electrode (16) and the Nernst electrode (17) are
connected with the gas entry hole (14) via a diffusion barrier (20).
9. The sensor element as recited in Claim 7 or 8,
wherein there is formed in the intermediate layer (12) a reference gas duct
(18) that may be charged with a reference gas, with which duct the reference
electrode (19) is in connection, and wherein the reference gas duct (18) is
preferably filled with porous material.
10. The sensor element as recited in one of Claims 1 to 9,
wherein an electrical resistance heater (21) that is embedded in an insulating
layer (22) is situated between the lower layer and the intermediate layer (11,
12).